

- Guenther, W. C. 1964. *Analysis of variance*. Prentice Hall, Englewood Cliffs, N.J. 199 pp.
- Kovner, J. L., and S. A. Patil. 1974. Properties of estimators of wildlife population density for the line transect method. *Biometrics* 30(2):225-230.
- Leslie, P. H. 1952. The estimation of population parameters from data obtained by means of the capture-recapture method. II. The estimation of total numbers. *Biometrika* 39:363-388.
- Ricker, W. E. 1958. Handbook of computations for biological statistics of fish populations. *Bull. Fish. Res. Bd. Can.* 119:1-300.
- Rogers, L. E., W. T. Hinds, and R. Buschbom. 1976. A general weight vs. length relationship for insects. *Annals Entomol. Soc. Amer.* 69(2):387-389.
- Rogers, L. E., R. L. Buschbom, and C. R. Watson. 1977. Length-weight relationships of shrub-steppe invertebrates. *Annals Entomol. Soc. Amer.* 70:51-53.
- Rotenberry, J. T., and J. A. Wiens. 1976. A method for estimating species dispersion from transect data. *Amer. Midl. Natur.* 95(1):64-78.
- Schumacher, F. X., and R. W. Eschmeyer. 1943. The estimate of fish population in lakes or ponds. *J. Tenn. Acad. Sci.* 18:228-249.
- Snedecor, G. W., and W. G. Cochran. 1972. *Statistical methods*. Iowa State Univ. Press, Ames, Iowa. 593 pp.
- Southwood, T. R. E. 1966. *Ecological methods: with particular reference to the study of insects*. Methuen, London. 391 pp.
- Woodbury, A. M. 1953. Methods of field study in reptiles. *Herpetologica* 9:87-92.

BARBED WIRE IMPALES ANOTHER GREAT HORNED OWL

by

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At 0900 on 24 May 1976, accompanied by K. Quackenbush, I found an adult Great Horned Owl (*Bubo virginianus*) impaled by both wings on the top wire of a five-strand, barbed-wire fence (fig. 1). The fence was on semiarid rangeland, predominantly mesquite (*Prosopis glandulosa*) and retama (*Parkinsonia aculeata*), near a small water tank, approximately 20 km NNE of Laredo, Texas.

The bird was alert and active when found. A set of barbs was entangled in the skin of each wing. Closer examination showed that the bird had injured its right eye, probably on a barb, during its attempt to get free. A small patch of skin was lost on each wing when the barbs were removed, but no bleeding occurred.

Because the owl was active and did not appear seriously injured, we released it, whereupon it hopped along the ground for 18 m, perched briefly on a small tree, and then flew 90 m to a mesquite tree. We did not observe it further.

The owl was apparently flying with wings extended when it hit the barbed wire with enough force that it made two complete turns around the wire and became firmly entangled on the barbs.

Edeburn (*Wilson Bull.* 85:478, 1973) found a Great Horned Owl impaled by one wing on a barbed-wire fence in Pennsylvania, and McCarthy (*Wilson Bull.* 85:477-478, 1973) found one impaled by one eye on a barbed-wire fence in Missouri. Fitzner (*Raptor Research* 9:55-57, 1975) found a Great Horned Owl and a Short-eared Owl (*Asio flammeus*) impaled, each by one wing, on a barbed-wire fence in Washington.

In all instances the impaled owls appeared to have hit the wire forcefully as if they either did not see it or did not perceive it as a hazard to their flight.



Figure 1. Great Horned Owl impaled on barbed wire fence.